

REMARKS

Careful consideration has been given by the applicant to the Examiner's comments and rejection of the claims, as set forth in the outstanding Office Action, and favorable reconsideration and allowance of the application, as amended, is earnestly solicited.

Applicant notes the Examiner's minor formal grounds of rejection of Claims 1-4, 6, 7 and 8-14 under 35 U.S.C. §112, second paragraph, and appropriate amendatory action has been taken in the terminology of Claims 1 and 8 to provide the required antecedent language.

With regard to Claim 4, the latter has been cancelled without prejudice, and accordingly, the formal ground of rejection is deemed to be rendered moot.

Applicant further notes the rejection of Claims 1-4, 6-12 and 14 under 35 U.S.C. §103(a) as being unpatentable over Wagenseil, et al., U.S. Patent No. 4,602,554, the latter of which is commonly assigned to the assignee of the present application and further in view of Fisher, et al. U.S. Patent No. 6,252,321, as extensively detailed in the Office Action.

Furthermore, applicant notes the rejection of Claim 13 as being unpatentable over Wagenseil, et al. in view of Fisher, et al. and further in view of Tovey, U.S. Patent No. 4,757,743, as also set forth in the Office Action.

Accordingly, in order to clearly and unambiguously distinguish over the art, irrespective as to whether the latter is considered singly or in combination, applicant has cancelled Claims 4 and 12 without prejudice or disclaimer, and incorporated appropriate amendments to the claims so as to clearly and unambiguously distinguish over the art.

In particular, in Claim 1, the aspect of the further recess being provided at the centering surface in order to receive a rotation-locking element has been deleted, and that particular feature has been resubmitted in newly presented Claim 15 (previously cancelled Claim 5, which was previously

introduced into Claim 1). In lieu thereof, applicant has provided the limitation in Claim 1, and similarly also in Claim 8, that the control plate is radially extended only in the region of the at least one control opening that is connected to the high pressure connection. This particular unique radial extension of the control plate in the region of the control opening that is connected to the high-pressure connection is clearly described in the specification on Page 10, lines 4-9 and illustrated in Fig. 3 of the drawings. Concerning the foregoing, applicant notes that the claims, as amended herein, clearly and unambiguously distinguish over the cited prior art, in traverse of which applicant submits the following:

In Wagenseil, et al., U.S. Patent No. 4,602,554, which is commonly assigned to the present assignee, there is disclosed an axial piston machine with a cylinder drum and a disc-shaped control plate with a through-opening for the shaft of the piston machine. Moreover, there is disclosed a bearing housing for centering the control plate with an inner radial edge on the outer edge of the bearing housing. The control plate additionally incorporates a radial extension at the outer edge, which reaches over the whole outline of the control plate. Wagenseil, et al. fails to provide for a radial extension at the outer edge only in the region of the control opening that is connected with the high-pressure, and moreover, does not disclose any segments on the inner edge of the control plate which extend radially inwards into the through-opening of the control plate for fixing the control plate on a centering body, here the bearing housing.

Reverting to Fisher, et al., U.S. Patent No. 6,252,321 B1, the latter disclose an electric motor with a rotor shaft 28 which is rotationally mounted in two bearing housings 54 and 104. The bearing housings 52 and 102 are centered by segments that extend along the inner edge of the housings 52 and 102, and each possess a concave fixing surface including bends extending in two different directions. The segments fix the bearing housing, the latter of which has a convex surface with the

same degree of curvature as the segments, in an axially and rotational manner by being arranged to each other point-symmetrically to the center of the bearing housing (as in Fig. 2). In that instance, the segments are clearly directed to the object of fixing the bearing housing in two directions, i.e., radially (centering) and axially, however, there is no consideration given to reducing weight and surface treatment or finishing with a high degree of precision. This is confirmed by referring to Fig. 3, which shows such small recesses, whereby there is not saved any appreciable weight or provision of a high-precision surface. Furthermore, it is obvious from Fig. 2 that the surface which has to be worked or finished with high-precision is even more complex, since there has to be produced a curvature with both a rotational and an axial bending. Therefore, it would not be evident or even reasonable that one skilled in the art would combine such a type of fixing with segments that are used for radially and axially fastening a bearing housing, while one skilled in the art would be intent to provide for fixing structure with lower weight and a less high-precision surface. Hereby, applicant notes that it is usually of no interest to reduce weight of the housing, but reducing the weight of the centered part also results consequently in a reduction of the centering part. In addition, one skilled in the art would look to Wagenseil, et al. for centering the spherical plate at an inner edge. However, in Fisher, et al., to the contrary, the centering housing is not centered, but it is the bearing housing that has to be centered. As a result, the combination of Fisher, et al. and Wagenseil, et al. would teach the formation of segments at the centering housing, whereas in the present application, at the outer bearing race 7, and not at the inner edge of the control plate 20, which has to be centered, since the foregoing would not assist in reducing the weight of the control plate.

Furthermore, applicant notes as follows in traverse of the applicability of the prior art:

Moreover, one who is skilled in this art would be primarily trained in the technology concerned with hydraulic piston machines, and not deemed to be familiar with the field relating to

electronic motors. Thus, it would not seem to be obvious to one skilled in the art to combine two publications dealing with two totally different and unrelated technological fields, and to combine a segmented fixing structure used for another reason than the object of the invention, which deals with the fixing along the inner edge. In addition, the combination does not render obvious extending the inner edge of the control plate radially by means of segments. Accordingly, Claims 1 and 8 are novel and patentable over the combination of Wagenseil, et al. and Fisher, et al., and clearly involve inventive steps.

Upon further consideration, applicant also notes that none of the cited references, nor the secondary prior art disclose features as set forth in the present claims and which provide advantages, as elucidated hereinbelow:

None of the cited documents show a radial extension of the outer edge of the control plate that is provided only in the region of the control opening, which is connected with the high-pressure connection. In particular, the combination of the fixing of the control plate on the inner edge by means of segments and the reinforcement of the control plate at the outer edge only in the region of the control openings that is connected to the high-pressure connection uniquely meets the object of the invention of reducing the weight, while still providing a pressure resistant control plate. The centering at the inner edge of the control allows for a reduction in the material employed between the control openings and the outer edge of the control plate, while the segmenting of the inner edge of the control plate enables a further reduction in the used material between the control openings and the inner edge of the control plate, such that jointly a considerable amount of weight can be saved. However, the reduction of the material at the inner and outer side weakens the control plate which operates under very high pressures. Therefore, Wagenseil, et al. provides a reinforcement at the outer edge of the control plate to compensate for this weakening of the control plate at the outer side.

Consequently, the material that is saved by centering the control plate on the inner edge of the control plate is offset by the reinforcement of the control plate for sustaining the high-pressures under which the control plate works. Through the present invention, only the control opening of the high-pressure side is reinforced by means of a radial extension such that the weight is still considerably reduced and the area of the control plate operating under high-pressure is still adequately high-pressure resistant.

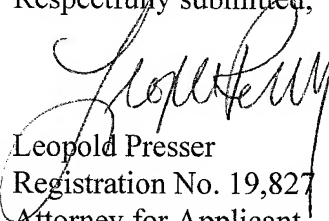
In summation, applicant notes that none of the references, irrespective as to whether considered singly or in combination, provide for the unique and advantageous features which are clearly described and claimed herein, and even considering Claim 13 in connection with Tovey, the latter still does not disclose subject matter which would be deleterious to the present patentable invention, inasmuch as Claim 8, upon which Claim 13 is dependent, is deemed to be clearly allowable as presented herein.

Finally, with regard to Tsunemi, et al. U.S. Patent Publication No. 2002/0034998 A1, this publication which is deemed as technological background material, does not add anything further to the prior art in regard to which applicant has presented clear traversing arguments in support of the patentability of the present invention.

Accordingly, in view of the foregoing comments and amendments, which are deemed to be fully responsive to the Examiner's grounds of rejection, the early and favorable reconsideration of the application and issuance of the Notice of Allowance are earnestly solicited.

However, in the event that the Examiner has any queries concerning the instantly submitted Amendment, applicant's attorney respectfully requests that he be accorded the courtesy of possibly a telephone conference to discuss any matters in need of attention.

Respectfully submitted,



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